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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------|
| 09/960,680 | 09/22/2001 | Angelo A. Lamola | 51076 | 5257 |
| 7590 | 11/19/2003 | | EXAMINER | |
| S. Matthew Cairns c/o EDWARDS & ANGELL, LLP Dike, Bronstein, Roberts & Cushman, IP Group P.O. Box 9169 Boston, MA 02209 | | | CHEUNG, WILLIAM K | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1713 | 6 |
| | | | DATE MAILED: 11/19/2003 | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/960,680 | LAMOLA ET AL. | |
| | Examiner | Art Unit | |
| | William K Cheung | 1713 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 October 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 11-22 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-10 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. Applicant's affirmed election of Group I invention without traverse in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Therefore, in view of lack of traversal to restriction requirement set forth from Paper No. 3, the restriction set forth is deemed proper and is therefore made Final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 (line 5), the recitation "mean particle size" is considered indefinite .The issue is the basis of measurement of the diameters, i.e., the type of average particle size diameter. Except for very narrow particle size distributions, an atypical situation, average particle size can vary substantially with the basis of measurement. For example, a mean or average particle size by number, surface or volume means respectively, that there are an equal number of particles above and below the average, that the surface area of all particles above and below the average are equal, or that the volume of all particles above and below the average are equal. A detailed treatise of the methods of calculation may be found in C. Orr, "Size Measurement of Particles", KIRK-OTHMER ENCY. of CHEM. TECH., 3rd ed., John Wiley & Sons, New York, Vol. 21, pp. 10-131 (1983). As an example, using calculations in the above citation, it can be shown that particles with a GSD of 2.0 and a mean particle size by number of 10.0 μm , the mean particle sizes by surface and by volume would be 20.6 and 26.1 μm , respectively. Average particle sizes by different methods such as microscopy, Coulter Counter, sieving, and adsorption, are generally a particle size average based upon number, volume, weight and surface area, respectively. Thus, unless the basis of measurement is specified an average particle diameter is indefinite.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kosal (US 5,504,149).

The invention of claims 1-9 relates to a process for preparing polymer particles comprising the step of: polymerizing one or more monomers in an aqueous emulsion comprising one or more surfactants, the one or more surfactants consisting of nonionic surfactants, wherein at least one of the nonionic surfactants is an amine-N-oxide surfactant, and wherein the polymer particles have a mean particle size of less than or equal to 100 nm.

Kosal (col. 4, line 50 to col. 5, line 24; col. 6, line 46 to col. 7, line 11) discloses a process for preparing polymer particles comprising the step of polymerizing one or more monomers in an aqueous emulsion comprising one or more surfactants which includes an amine-N-oxide surfactant. Further, Kosal in working example 6 (col. 8, line 62 to col. 9, line 7) discloses that polymerization process can produce particle sizes as low as

52.9 nm. Since Kosal contains all the limitations of claims 1-9 in a single embodiment, claims 1-9 are anticipated.

Regarding the invention of claim 6 relates to the process of claim 1 wherein the mean particle size is less than or equal to 50 nm, Kosal (col. 2, line 11) clearly teach a process for making particle size that is less than 140 nm. In view of working example 5 (col. 8, line 62 to col. 9, line 7), it would not be difficult for one of ordinary skill in art that the teachings of Kosal also expressly include 50 nm or less in particle size. Therefore, claim 6 is anticipated.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosal (US 5,504,149).

The invention of claim 10 relates to the process of claim 1 wherein the emulsion is free of siloxane monomers.

Kosal (col. 4, line 50 to col. 5, line 24; col. 6, line 46 to col. 7, line 11) discloses a process for preparing polymer particles comprising the step of polymerizing one or more monomers in an aqueous emulsion comprising one or more surfactants which includes an amine-N-oxide surfactant. Further, Kosal in working example 6 (col. 8, line 62 to col. 9, line 7) discloses that polymerization process can produce particle sizes as low as 52.9 nm.

The difference between the invention of claim 10 and the disclosure to Kosal is that Kosal is silent that the process produces emulsion that is free of siloxane monomers.

However, since Kosal clearly indicates that the disclosed process is for preparing polymer particles using initiators, motivated by the expectation of success of producing

emulsion polymer at high yield, it would have been obvious to one of ordinary skill in art to use the process teachings in Kosal to obtain the invention of claim 10.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number is (703) 305-0392. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (703) 308-2450. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-5885.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



William K. Cheung

Patent Examiner

November 12, 2003